


I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4).

Dated: October 14, 2008

Signature:

  
(Michael P. Furmanek)

Docket No.: 30810/39676A  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Michael J. Brookman

Application No.: 10/675,135

Confirmation No.: 5725

Filed: September 29, 2003

Art Unit: 3771

For: Powered Air Purifying Respirator System and  
Breathing Apparatus

Examiner: A. F. Dixon

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

MS AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby requests that a panel of examiners formally review the legal and factual bases for the rejections set forth in the final Office Action, dated July 21, 2008, in connection with the above-identified patent application. Applicant respectfully submits that the rejections are legally and factually inadequate for the reasons concisely described below. This request is submitted with a Notice of Appeal.

Each of the pending claims, i.e., claims 1-4 and 6-28, stand rejected under 35 U.S.C. §103(a) as allegedly obvious over Mucha (DE 195 03 027) in view of at least one of Hilton et al. (EP 0 241 188 A1) and Bartels & Rieger (DE 3 512 644).

In formulating the rejections, the examiner asserts that Mucha discloses a valve assembly (4) where “pressurized air supplied from [a] tank opens [a] first valve (22) and closes [a] second valve (23) to actuate said valve assembly (4) from [a] filtered mode to [a] clean air mode while continuously providing a supply of breathable air to the user...,” as recited in independent claims 1 and 9 of the pending application. *See*, page 3, lines 6-9 of

final Office Action dated July 21, 2008. In support of this assertion, the examiner alleges that Mucha includes an atmospheric pressure sensor 11 that enables the controller 12 to perform a pressure comparison for directing the movement of the valve. *See*, paragraph 5, “Response to Arguments,” spanning pages 5-6 of the final Office Action.

Applicant respectfully submits that Mucha does not support the examiner’s assertions/allegations.

*Mucha Does Not Disclose Pressurized Air Actuating the Valve*

Mucha teaches a breathing system including a compressed air cylinder 9, a filter system 7,8, a controller 12, and a reversing valve 4. The controller 12 generates a signal to urge the reversing valve 4 and switch the air supply between the filter system 7, 8 and the compressed air cylinder 9. Furthermore, Mucha describes a pair of sensors 10, 11 for comparing a concentration of contaminating gases in an area downstream of the filter system 7, 8 to a concentration of contaminating gases in the atmosphere. The controller 12 controls the reversing valve 4 based on this comparison. This is described in the last paragraph on page 2, which continues onto page 3, of the English-language translation of Mucha submitted with Applicant’s information disclosure statement dated May 2, 2006.

Thus, Mucha clearly discloses a valve assembly that is actuated under the influence of an electric signal that is generated by the controller 12 and NOT by the pressurized air from the cylinder, as explained in Applicant’s papers dated October 29, 2007 and May 7, 2008. Moreover, contrary to the examiner’s assertions/allegations set forth in the final Office Action, Mucha does not actuate the valve based on pressure comparisons, but rather, based on contaminating gas comparisons facilitated by gas sensors 10, 11.

*Mucha Does Not Provide A Continuous Supply of Breathable Air During Switching*

In addition, Mucha does not disclose or suggest a valve assembly that switches from one mode to another “while continuously providing a supply of breathable air” to the user. Although the examiner asserts that Mucha discloses this feature, the final Office Action provides no specific indication or support for where Mucha discloses the same. This is because no support exists. Rather, when the system of Mucha switches between modes, a moment of dead-time is produced, wherein the user is not provided any breathable air.

For example, as described in Applicant's paper submitted May 7, 2008, Fig. 2 of Mucha depicts one embodiment of a piston-type reversing valve, which is positioned to provide a user with air from the filter system via conduit 5. To switch to the compressed air supply, the controller 12 generates a signal to move the piston to the left such that control edge 23 closes conduit 5 and control edge 22 opens conduit 6. As illustrated in Fig. 2, control edge 23 is positioned only slightly to the right of conduit 5 when conduit 5 is open, while control edge 22 is positioned well to the right of conduit 6 when conduit 6 is closed. This positioning of control edge 22 is required such that the piston can overlap and securely close conduit 6 when in the illustrated position. As such, when the piston begins to move to the left, control edge 23 begins to close conduit 5 prior to control edge 22 opening conduit 6. Therefore, the reversing valve depicted in Fig. 2 generates a moment of dead-time during this switching operation when the user is not provided breathable air. Fig. 5 of Mucha illustrates an alternative reversing valve that operates generally identical to that depicted in Fig. 2, and therefore, also creates a moment of dead-time.

Moreover, Figs. 3 and 6 of Mucha illustrate further similar embodiments of reversing valves that create a moment of dead-time during switching. For example, in Fig. 3, a cylinder 25 of the rotary reversing valve is positioned such that a bore 26 defined therein provides fluid communication between the filtered system (via conduit 5) and the user (via conduit 2). To switch to compressed air supply, the controller 12 generates a signal to rotate the cylinder 25 such that the bore 26 provides communication between the compressed air tank (via conduit 6) and the user (via conduit 2). However, as illustrated in Fig. 3, conduits 5 and 6 are circumferentially spaced apart. Therefore, as the bore 26 in the cylinder 25 is rotated between conduit 5 and conduit 6, there is a moment of dead-time when the bore 26 is positioned between the conduits 5, 6. At this moment, the user is not provided breathable air.

Therefore, the arrangements of the reversing valves disclosed in Figs. 2, 3, 5, and 6 of Mucha cannot switch from one mode to another while continuously providing a supply of breathable air to the user, as recited in independent claims 1 and 9. Furthermore, no other reference of record discloses or suggests these features.


In light of the foregoing, the obviousness rejections set forth in the final Office Action are clearly improper and without basis because the prior art fails to teach or suggest all of the claimed limitations.

Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Dated: October 14, 2008

Respectfully submitted,

By

  
Michael P. Furmanek

Registration No.: 58,495  
MARSHALL, GERSTEIN & BORUN LLP  
233 S. Wacker Drive, Suite 6300  
Sears Tower  
Chicago, Illinois 60606-6357  
(312) 474-6300  
Attorney for Applicant